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MEDICAL.

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Beauty improved.—TO improve and beautify the ſkin, is an object worthy of attention, and is productive of many uſeful conſequences. The face is the index to the body, and nature has ſo determined, that internal diſeaſe is manifeſted in the countenance. Cleanlineſs and flexibility of the ſkin are ſome of the principal requiſites to the health and comfort of the individual. Uncleanlineſs, ſedentary employments, many articles of diet, intemperance, impure air, and warm liquids, contribute to render the ſkin unfit to diſcharge the impure fluids, which, if retained in the body, are liable to ſettle on it, and produce eruptions. Habitual ſore eyes, red noſes, and eruptive faces, generally ſpeak in a language not hard to be underſtood. Eating chalk, drinking vinegar, applying preparations of mercury or lead, or any artificial quack coſmetic whatever, with a view to improve the ſkin, is very unſafe, and falls ſhort of the object. If there is any coſmetic in nature, it is water; which is ſafe, eaſy to be obtained, and never fails to produce good effects. Water ought to be uſed freely and frequently: but an African may as well be bleached, as to remove eruptions from the face, without beſtowing due attention to the ſtate of the body.

To improve the ſkin, three things are neceſſary:—

1. Due attention to inſenſible perſpiration, which is an important proceſs, by which nature expels hurtful and uſeleſs particles; it keeps the ſkin ſoft and pliant, animating it with

the vigor of life. The healthy individual perſpires daily above three pounds of impure fluid; and no diſeaſe can be cured without the co-operation of the ſkin, the conductor of perſpiration, the organ to purify the fluids. Exerciſe promotes a free perſpiration. Bathing is an excellent ſpecific, as it cleans and enlivens the ſkin, and fits it to perform its office; refreſhes the mind, and gives a ſenſation of eaſe, activity, and cheerfulneſs; removes ſtagnated fluids in the capillary veſſels, and promotes a uniform circulation of the blood; preſerves the ſolids ſoft and flexible, and is a powerful means of preſerving beauty. Avoid uncleanlineſs, ſudden changes of heat and cold, and impure air, all which retard perſpiration.

2. Purity of the fluids. This depends on a free perſpiration, and a ſound ſtate of digeſtion. The healthy ſtomach can only produce healthy fluids; hence it ought never to be overloaded with fat and crude articles, or inundated with large quantities of warm tea or coffee. Animal food, when copiouſly uſed, diſpoſes the fluids to an impure ſtate, creates a bad breath, and renders men more bold and ſanguinary in their tempers; all which is manifeſted in carnivorous animals. Large quantities of tea or coffee weaken the powers of digeſtion, eſpecially if taken hot. If tea is made too weak, it operates like warm water, relaxes the ſtomach; and if made too ſtrong, gives unnatural heat, and produces tremblings. The immoderate uſe of coffee is alſo injurious, leading to nervous diſeaſes and eruptions in the face. A nouriſhing diet, conſiſting principally of farinaceous ſubſtances, and a ſmall proportion of animal food will be proper, and is one of the ſureſt means of preſerving *health* and obtaining *long life*. Tea or coffee, if made neither too ſtrong nor too weak, may be moderately uſed, if taken not too warm.

3. Equal diſtribution of the fluids. When the blood is profuſely thrown to the face, it produces unnatural redneſs and fluſhings. Avoid the frequent uſe of every kind of heating liquor, as punch, wine, &c. but eſpecially abſtain from the free uſe of ardent ſpirits, that liquid fire, which deſtroys an equal diſtribution of the blood, parches the ſkin, removes a fair complexion, and ſubſtitutes a peculiar color, which has been figuratively called the morocco in the face.

Air.—Air is that colorleſs, tranſparent, elaſtic, compreſſible, and heavy fluid, which ſurrounds the earth, and is called atmoſphere. It ſupports animal life, pervades all animate and inanimate matter, and combines with a variety of foreign ingredients. It contains water in ſolution, by which it combines with ſalts; it is frequently ſaturated with putrid exhalations. Every

foot ſquare of our bodies ſuſtains a quantity of air equal to 2660 pounds; and the difference of preſſure which we ſuſtain, at different times, is very great. When all foreign ingredients are ſeparated from the air, it ſtill remains a compound fluid, conſiſting of three different ſpecies; oxygene (pure air) azote (mephitic or impure air) and carbonic acid (fixed air.) In one hundred parts of atmoſpheric air, there are ſeventy-two of azote, twenty-ſeven of oxygene, and one of carbonic acid.

Oxygene is reſpirable, ſupports life, gives the red color to the blood, and promotes combuſtion. A candle will burn longer in it, and with greater heat and more brilliant flame, than in common air. Animals live in it ſix or ſeven times longer than in atmoſpheric air. All acids have it for their baſis. It is exhaled from vegetables when expoſed to the ſun.

Azote is irreſpirable, deſtroys animal life, extinguiſhes fire, and greatly promotes the growth of vegetables. A candle will not burn in it. It ariſes from every change which atmoſpheric air undergoes in combuſtion, putrefaction, and reſpiration. It accumulates in apartments filled with people, or containing articles newly painted with oil colors, or in which fragrant flowers are kept, without having acceſs to freſh air. All ſuch places are unhealthy.

Carbonic acid is unfit for reſpiration; animals cannot live in it: neither is it proper for vegetation. It extinguiſhes fire, and has a ſuffocative power. It ariſes by fermentation of vegetable matters. It exiſts in combination with chalk, lime-ſtone, and alkalies. It is one ingredient in mineral waters, and when taken gives energy to the ſtomach. Fermented liquors contain a portion of it, and receive from it a pungency which is agreeable to the palate. It has occaſioned ſuffocation, on opening tight cellars, where large quantities of wine, cider, or beer were ſuffered to ferment.

Hydrogene or inflammable air is not a conſtituent part of the atmoſphere. It does not maintain combuſtion, but takes fire when in contact with common air, by the application of a body already heated. Combined with oxygene, it forms water. It deſtroys animal life, by producing convulſions. It is generated in the inteſtines, mines, burying-grounds, ſtagnant waters, and ſwamps where plants are putrifying. It has cauſed ſudden death, on opening deep pits, deſcending certain wells, and other confined places.

Carbonic acid is heavier than oxygene or azote, both of which are heavier than common air, and hydrogene is lighteſt of all.

The maſs of the atmoſphere is corrupted, by the reſpiration of men and animals, diſſolution and putrefaction of ſubſtances,

and would at length become imcompetent for its original deſignation, if nature had not provided for its reſtoration, by the growth and vegetation of plants, cold of winter, &c. Moſt plants correct bad air when expoſed to the light of the ſun, by exhaling oxygene; on the contrary, they corrupt the air during the night, or in the ſhade, by exhaling impure air: but on the whole, there is a vaſt balance of oxygene produced, for the azote generated by a plant during a whole night ſcarcely amounts to a hundredth part of the oxygene exhaled from the ſame plant in two hours in a fair day. The cold of winter interrupts the growth of plants, and effectually ſtops the progreſs of putrefaction.

Warm air relaxes, oppreſſes the nerves, and quickens the circulation; but cold renders the body more compact, increaſes the appetite, and ſtrengthens the powers of digeſtion. Damp air relaxes and debilitates, occaſions a flowneſs in the circulation, impedes perſpiration, and depreſſes both the body and mind. Damp places are unhealthy in cold weather, but more ſo in warm; moiſture impairs the energy, and heat increaſes the evil, by opening the pores, through which the moiſture penetrates the body. Dry and cold air promotes ſerenity both of body and mind. Dry and hot air affects like heat, enervates the body. Sudden tranſitions from cold to hot, or from hot to cold air, are injurious, eſpecially the latter. Exchange of bad air for that which is healthy, is ſafe at all times.

Among the different winds (which are ſtrong commotions of air) the north is comparatively the moſt wholeſome; it purifies the atmoſphere, renders the air dry and ſerene, and imparts to the body vigor, activity, and a lively color. The ſouth wind relaxes and weakens. Too dry weather is more healthy than that which is too moiſt. Of the four ſeaſons, the autumn is the moſt unhealthy; vegetation is declining, and the air is filled with corrupted particles. If the temperature of the air correſpond with the natural conſtitution of the ſeaſon, we may expect health; on the contrary, diſeaſe. All ſtrong ſcented bodies, of whatever nature, render the air impure, and are many times injurious to delicate conſtitutions. The local conſtitution of the air, depends not only on the exhalations of the ſoil, but alſo on the different vapors blended with it, by the wind from adjoining places. A dry and ſandy town, healthy of itſelf, may be rendered very unhealthy from the vicinity of marſhes and ſtagnant waters. The air of every climate, cold, temperate, or hot, may be healthy, provided it be pure and clear, occaſionally agitated by winds; but a groſs atmoſphere, loaded with animal and vegetable exhalations, is deleterious. A country producing good water, generally has a ſalubrious

air; and as the beſt water is taſteleſs, ſo the beſt air is without ſmell.

It is of the utmoſt conſequence that the air ſhould be good in dwelling-houſes, and this cannot be expected where cleanlineſs is not obſerved. Rooms, and eſpecially bed-rooms, ſhould be well aired, by opening the windows daily in fair weather. A free current of air ſhould paſs through ſleeping rooms every day, even in the winter. If the weather be good, the windows ſhould be opened early in the morning, and be ſhut at ſunſet, or when the room is properly aired, or when there is more danger to be apprehended from the external air than the internal. It is no ſmall hazard to leave the windows open during the night, in the ſummer time; perſpiration may be checked and diſeaſe enſue. In houſes which are ſurrounded with trees and plants, it will be proper to ſhut the windows at ſunſet, and if hazy weather, before, and not to open them until after ſunriſe. It is unhealthy to ſleep in a room where there are quantities of green fruit, proviſions, or goods of any kind; they all render the air impure. Unclean linen taints the air, and ſhould never be ſuffered to remain in a ſleeping room. Cleanlineſs is a Chriſtian virtue, and no perſon can be amiable without it.

Every room is filled with three different ſtrata of air: firſt, the loweſt is the heavieſt, the carbonic acid gas; ſecond, the middle is the lighteſt atmoſpheric air; and third, the uppermoſt is the lighteſt or inflammable, and the moſt impure of the three, in conſequence of reſpiration, &c. In lofty apartments this uppermoſt ſtratum is not inſpired, the ſecond being higher than the height of a man, and is the moſt wholeſome. The burning of oil and candles corrupts the air, and the vapor of charcoal is very unhealthy, eſpecially in cloſe apartments, producing ſtupor and death. Plants and flowers may be placed in dwelling rooms expoſed to the ſun, but they ought to be removed at ſunſet. Large trees with a thick foliage ſhould not be planted near the windows; they obſtruct the light and freſh air, and thus tend to make the rooms damp, and their exhalations in the night are unhealthy. Trees planted eight or nine yards from the houſe are uſeful, as they do not obſtruct the light and air, but afford a cooling ſhade in ſummer, emitting ſalubrious exhalations during the day. Feather beds have a tendency to corrupt the air, and ſhould not be uſed in warm weather; but if uſed, they ought to be well aired every day. We ought to avoid ſudden tranſitions from hot to cold air, and endeavor to accommodate our dreſs to the temperature of the air, and not to the follies of faſhion.

Charlatanical impoſture.—That "the practice of phyſic has been taken up by the lazy and ignorant," and that "charlatanical impoſture has kept pace with the credulity" of the age, needs no proof. "A reformation of the abuſes in the practice of phyſic" is very deſirable, and "ought to be attempted and proſecuted with zeal." The practice of phyſic requires a ſtrong mind, ſound judgment, and natural acuteneſs. A judicious phyſician conſiders himſelf merely an aſſiſtant to nature; when her force is ſufficient, he leaves her to perform the cure. But ſome never leave kind nature to herſelf; but fall to work with the lancet and emetics, cathartics and bliſters, tonics and ſedatives, pills and powders, and hence never know the utility of any thing. They ſeem to forget, that the great art of adminiſtering medicines, is in well timing them, and regulating the doſe or quantity, ſo as to have the deſired effect. Danger is to be apprehended from the unprincipled, who are ſuperficial in knowledge and judgment, and have impudence enough to place themſelves above embarraſſment. There are ſome who imagine they underſtand the nature of every diſeaſe, and have an enthuſiaſtic notion of the powers of their preſcriptions, and are never diſturbed with doubt, having an arcanum for almoſt every diſeaſe, however incurable in its nature, pretending to the power of taking a malignant diſeaſe out of nature's hands, and reſtoring health to the patient in a ſurpriſing manner; but mark, reader, theſe are among the ſuperficial and oſtentatious. Some are in a habit of boaſting of the many extraordinary cures they have done, the vaſt quantity of buſineſs on their hands, the ſurpriſing efficacy of their powders and plaſters, even to diſarm the cancer of its ſting, &c. &c. but they do not tell of thoſe who by their means are removed from time: theſe bring conjectures for facts, and aſſertions for proofs. Some are always troubled with bad caſes, and are always telling how very, amazing ſick their patients are, black, putrid, bilious, very ſick indeed, ſickeſt ever ſeen, &c.: but this is in order to enhance the credit of their preſcriptions, if the patient ſhould recover, and ſecure a retreat from blame, if he ſhould die: but this is mean and illiberal, and diſcovers great deficiency. A wiſe phyſician will aim for the truth, and exerciſe that liberality and benevolence which ever command reſpect.

G——.

April, 1807.

AGRICULTURAL.

Further Obſervations on paring and burning Meadow Lands.

By the Rev. T. FLINT.

DR. ADAMS,

A WRITER in a late Regiſter, over the ſignature of "Patience," controverts the mode of tilling meadows which I attempted to deſcribe. Why he has been pleaſed to entitle it "my improvement," or why he has ſaid, "I ſeem to ſuppoſe I may recommend it confidently," I am at a loſs to ſay. Nothing which I advanced, I truſt, will warrant either. If, however, to have a full perſuaſion myſelf of its utility, make it "my improvement," and "recommend it confidently" to others, be it ſo. Nor are the objections, though perhaps more forcibly and happily ſtated, new to thoſe who have ſo cultivated their meadows. The proceſs in queſtion has ſtruggled through them all, and in this place has vanquiſhed its enemies: indeed, in five years time it has more than repaid the original value of the land.

The remarks of "Patience" ſeem to reſult from a haſty deciſion, and diſplay more of the orator than the reflecting agriculturaliſt. Omitting mere declamation, and ſelecting what is to the point, there remains four or five ſentences, in which are theſe objections. Firſt, This method lowers meadows; they ſhould be raiſed. Secondly, Aſhes are pernicious upon wet lands.

We admit that meadows ſhould be effectually drained. Firſt advantage of the diſputed proceſs. It radically drains the meadow, leaves it almoſt as dry as high lands; and concluſive proof of this is, that on all meadows ſo cultivated, the fineſt crops of rye have been raiſed. No vegetable is ſooner injured by ſtagnant water than rye.

We do not "recommend" this tillage upon level intervale meadows, which are already covered with ſeeded graſſes; but upon deep, moſſy, cold, ſunken meadows, covered with clumps and haſſocks, from which riſe coarſe and reedy graſſes, which cling ſo cloſely to the ſoil, that no other tillage will eradicate them. If the elevation of a meadow of this aſpect were, on an average, five inches above the ſtream which waters it, we contend, that it would be drier after this proceſs, and after loſing by it two of thoſe five inches, without any ditching whatever, than in its natural ſtate. And why? Becauſe it would be

cleared of moſs, as retentive of water as a ſponge, and its numberleſs circular haſſocks, indenting it with a thouſand little ponds, which find no eſcape between the obſtructing haſſocks, except by evaporation during the ſultry months. And a formidable objection to the plan of covering it with earth from the high lands, is this:—You muſt cover it from twelve to eighteen inches deep, to bury the haſſocks; which, if not buried very deep, would only ſhoot out their graſſes with more luxuriance. But the proceſs before us not only tends to drain the meadow, by removing obſtacles which impede the paſſage of water, and moſs which retains it, and indentations ſcooped out to hold it; but it always ſuppoſes ditches at regular intervals, communicating with the main ditch, of two or three feet depth, and continued in the main ditch to a water fall. Where the meadow is extenſive, and owned by different people, mutual advantage will call them to unite, in order to lead the main ditch to a water fall. The ſurface is thus raiſed from ten to ſixteen inches above the ordinary elevation of water in the ditches. But we can recur to no argument more evincive of the draining tendency of this tillage, than the fact, that rye always has flouriſhed after it.

But while we admit with "Patience," that redundant water is injurious, we conteſt his dogma, that it is the general and chief cauſe of ſterility in meadows. Is not what is called with great propriety the "wild nature," little buſhes, white moſs, polypod, bucks-horn, brakes, cranberry vines, haſſocks filled with roots, as tough as twine, attaching themſelves ſo cloſely to the ſoil as to defy the plough and competition from better graſſes? Let thoſe who have remarked the general aſpect of barren meadows in this State, ſay, if theſe are not the prevailing cauſe of ſterility.

It is meadows of this deſcription to which this tillage has been chiefly applied. They have a ſoil from three to eight feet deep above the pan. This ſoil has been forming from creation, from the depoſite of rivulets and rills, turbid with leaves and the finer and richer particles of earth, ſwept from the adjacent high lands. In meadows ditched the paſt autumn, leaves, making a conſiderable proportion of the ſoil, were found at the depth of three feet, in ſuch preſervation as to enable you to aſcertain from what trees they fell. Such preſervation, during ſo many ages as muſt have elapſed in forming three feet of ſoil, ſhews how completely they had been ſhielded from fermentation. Second advantage of the tillage before us. It bares the meadow to ſun and air, allows them to penetrate the ſurface, and conſequently to begin a fermentation, which is forwarded alſo by the heat of fire. "Patience" cannot have adopted the

popular idea, that fire conſumes in the ſenſe of annihilation. It deſtroys nothing; and is only a ſolvent, reducing crude and undiſſolved ſubſtances back to their component principles: but neither does this effect take place any deeper than the ſod ſtruck off by the hoe. Thus, inſtead of burning up or annihilating the ſoil, it only diſſolves ſubſtances, which were not only uſeleſs, but impeded vegetation, and fits them to be taken up again as food for other vegetables. Nor is the beneficial effect of fire upon low lands of modern eſtimation. One of the earlieſt, moſt beautiful, and inſtructive writers upon agriculture of ancient times, adviſes the farmer to burn his low lands "with crackling flames." "Urere crepitantibus flammis."

But "Patience" declares, "that it has been the uniform experience," that burnt meadows have been ſpoiled. I have no doubt it has been a general impreſſion, that they would be ſpoiled, and theſe preconceived notions have finally come to be thought the reſult of experience. Beſide the inſtance which I mentioned, as giving riſe to this tillage, there is another in my recollection, which had a very different iſſue. In a bucks-horn meadow in the lower extremity of Middleſex, fire was accidentally kindled and ſpread among its innumerable fibrous roots with great rapidity. "The neighbors" were raiſed in vain. Half an acre was burnt over, to the depth of two or three inches. The conſequence was, the land, inſtead of being ſpoiled, was ſoon covered with luxuriant jointed blue graſs, and has continued to produce valuable crops until this time, although it was burnt as much as twelve years ago; the bucks-horn is, however, gradually regaining its empire.

But we come to the moſt formidable objection of all; an objection which is to "raiſe the neighbors," and which levels the policy of this tillage with that of him who "burns his barn for the ſake of the aſhes." The pernicious tendency of aſhes upon wet lands, is a maxim which has been handed down from father to ſon. But every thing which has the ſanction of antiquity and tradition is not therefore true. Experiment is overwhelming many of theſe ancient ſtructures with gigantic ſtrength and ſpeed. Aſhes, uſed principally upon wet lands, in this vicinity, at leaſt command more than double the price they did five years ſince. None realize their bad effects but thoſe who do not uſe them. Indeed, the fertility which follows their application upon a barren flat, is apt to make the farmer forget the original meanneſs and poverty of the ſoil, and to be diſappointed when his land returns to its primitive ſtate. Aſhes have been ſuppoſed to have an effect upon ſoils, analagous to ardent ſpirits upon man. There is, in our view, no analogy in

the caſe; and if there were, a meadow four feet deep has reſources inexhauſtible.

I have heard before of the calx of neutralized aſhes, but having uſed them myſelf upon wet lands for five years, I have ſeen nothing of it. The meadows in queſtion have been ſo tilled five years, and there is yet no ſenſible diminution, either in quantity or quality, of the crop. During the paſt autumn, when graſshoppers and drought had tinged the high lands with yellow, I went upon meadows which have been four years under this cultivation. According to "Patience," I ſhould have found the ſurface a heath, baked with a hard calx, like a tract recently overwhelmed with an eruption of Ætna. So far from it, when cattle were famiſhing in the open fields for want of feed, theſe were covered with a ſecond crop, a continued green, a charming contraſt with the reſt of the proſpect.

A ſtrong preſumptive proof that this tillage does not ruin the ſoil, is, that it has prevailed in thoſe countries where agriculture is beſt underſtood, as England, and particularly Ireland. It is there eſtimated, that peat aſhes have but a ſmall portion of alkaline ſalts, but are rather like burnt clay, abſorbent, and are a highly valuable manure upon meadows.

None will diſpute the utility of covering low lands with an inch or two of earth from the high lands; but beſides that, it is an expenſive and ſlow proceſs, and upon miry meadows well nigh impracticable. The very meadow upon which the cultivation which we "recommend" will profitably apply, can receive no advantage from that method, unleſs covered ſo deep as to bury the haſſocks and kill the "wild nature," which would require perhaps a foot of earth.

Upon the whole, I can ſee no reaſon why meadows of any conſiderable depth, ſo cultivated, ſhould not be as durable in fertility as natural meadows.

Lunenburg, March, 1807. T. FLINT.

For the MEDICAL AND AGRICULTURAL REGISTER.

Of White Fiſh as a Manure; the Method of uſing them; their fertilizing Effects, and the happy Conſequences which have followed from the Uſe of them.

MANY are the ſpecies of manure which have been made uſe of in this State, eſpecially ſince the American revolution, to renovate and fertilize lands which have been reduced by repeated crops, the great importance of which is now known and acknowledged by all. One of the moſt approved of theſe

is the plaſter of Paris, which may be obtained at a low rate, which renders it an important object to the man of ſmall fortune, and is adapted to every variety of ſoil, for grain of all kinds, and graſs, but eſpecially of clover, if applied to lands remote from the ſea. But the ſame ſubſtance, when put on lands near or within a few miles of the ſea, has been found to be almoſt totally deſtitute of any enriching or meliorating properties.* Providence has, however, kindly furniſhed farmers reſiding near the ſea with another ſpecies of manure, in all reſpects amply compenſating for the failure of the plaſter, which renders the earth more fruitful and productive than any ſubſtance whatſoever, heretofore made uſe of for the like purpoſe, in theſe parts.

The manure alluded to, is no other than a certain kind of ſmall fiſh, termed by fiſhermen (and now generally known by the name of) White Fiſh. About the laſt of May, or during the latter part of the ſeaſon for catching Shad, immenſe ſhoals of theſe fiſh are annually ſent to viſit our ſhores, and uſually continue their viſit ſeveral months. And what renders them more eminently important to the farmer, is the cheap rate at which they may be obtained; the price of 1,000 being one dollar, or at moſt one dollar and a quarter: 3,000 are uſually carried at a time with a good ox team, and three ſuch loads will richly manure an acre of land; indeed, 7,000 will pretty well ſerve for that quantity of land. So numerous and plentiful are they, that the fiſhermen frequently take 20,000 or 30,000 at a draught.

The method practiſed by thoſe who firſt made uſe of theſe fiſh as manure, was to place them in the field in a heap, mixing them with earth while heaping, the proportion of earth being equal to five or ſix times the quantity of fiſh, and leaving them in that ſtate till the ſeaſon for ſowing winter grain; when, being pretty much incorporated with the earth which had been mixed with them, the whole has been commonly ſpread on the piece deſigned to be improved, after being firſt ploughed. The grain was then ſown and harrowed in as uſual. However, farmers have lately ſpread the fiſh on the ground, when firſt brought from the ſea, and have uſually ploughed them in immediately, and left the ground in that ſtate till ſeed time, when the ground being croſs-ploughed, the grain was then ſown and harrowed in as before. Land thus manured, has in many inſtances produced ſurpriſing crops of wheat: but wheat, however, is not ſo ſure, nor will it generally, even with this mode of culture and this manure (though unqueſtionable the

* This obſervation does not accord with the experience of Mr. BROWN. See his obſervations, page 198—203. E.

richeſt) yield ſo liberally as rye; the former producing commonly not more than twenty buſhels to the acre, and indeed ſometimes falling ſhort of that quantity; while the latter, when manured as above, will generally yield thirty buſhels, and often more, on a like quantity of land. Moreover, the ſame land will, the enſuing ſeaſon, without being further manured, produce a good crop of rye; this will, however, be inferior to the former, but may notwithſtanding be called a plentiful crop, and will ſometimes amount to twenty-five, and ſometimes will not exceed twenty buſhels to the acre.

In addition to the preceding obſervations, it ought to be noticed, that this kind of fiſh is very peculiarly beneficial for manuring land intended to be ſown with turnips, which have been found to be ſingularly ſweet and palatable, and may be kept much later in the year even than ſuch as have been raiſed on new land (which heretofore have been eſteemed the beſt) being much leſs fungous than thoſe which are raiſed by any other mode of culture, and producing in much greater abundance; an acre of land affording as much and often more than four hundred buſhels.

Further, this kind of manure has a very happy effect in the production of potatoes, applied in the ſame manner as for raiſing grain, ploughing in the fiſh, &c. as before mentioned; but they ought not to be planted till the firſt part of the wane or old of the moon, in the month of June; their growth will then be vaſtly rapid and luxuriant. The potatoes will be very large in ſize, if properly dreſſed, and will alſo yield plentifully. Not only ſo, but the crop being taken off, the ground will be in the beſt condition for a crop of Engliſh grain, perhaps of wheat; but a large crop of rye may, with a great degree of certainty, be inſured (it might perhaps be ſaid) to the cultivator. Further, if an ample ſupply of fiſh cannot be procured, to manure the land as above, a ſingle fiſh may be placed in each hole, at the ſame time taking care that the fiſh come not in contact with the potatoes. This laſt method of raiſing potatoes has proved very ſucceſsful, as well as the former.

One remark muſt not be omitted in this place, which will perhaps more fully evince the peculiar excellency of the manure in queſtion, which is, that for more than thirty years previous to the introduction and uſe of the fiſh in this part of the country, ſcarcely a ſingle inſtance of a plentiful crop of wheat has been known, inſects, blaſting, or the winter, having univerſally proved fatal to its growth, though formerly more prolific than rye; whereas ſince lands have been dreſſed as above, they have been in ſome degree as it were reſtored to their original ſtate of fertility, many plentiful crops of wheat having been produced,

every ſpecies of inſect ſuppreſſed or deſtroyed, and blaſting and the fatal effects of winter in a great degree prevented.

It ought to be further obſerved, that the lands in this vicinity, which have been manured and improved as is above deſcribed, for raiſing Engliſh grain, &c. have been generally of the moſt barren kind, viz. a hard, cold, cloſe, or ſtiff ſoil, which had never, before the application of this manure, produced any vegetable whatſoever, except a certain worthleſs kind of graſs, affording very little nouriſhment to any animal, and when taken hold of by a bullock, immediately coming up by the roots. This has ever been known here by the name of poverty graſs; the land on which it grows never becoming ſwarded, as is common with every other ſpecies of graſs. Such is the original quality of the land, and ſuch has been its produce, when manured and improved as above deſcribed.

A SUBSCRIBER FROM CONNECTICUT.

Saybrook, March 26, 1807.

To prevent the Depredations of the Squaſh Bug and the Yellow Fly.

DR. ADAMS,

THE ſquaſh bug and yellow fly have of late committed great ravages. The laſt ſummer they were embodied in armies of invincibles. Viewing their havock, at a moment which quickened invention from the neceſſity of immediate ſuccour, I happened to hit upon a recruit which made the ravagers retreat. From a floor lately covered with hops, I collected ſome of the flour of the hop, poured upon it boiling water, and put in a little wheat flour, to give the liquid an adheſive quality; with this compoſition I wet the plants with a mop of rags, and it coated them with a defenſive ſhield againſt their natural enemy. I afterwards made a ſtrong decoction from the hop itſelf, and found it equally efficacious. This experiment is not ſanctioned by repeated experience, but I am ſufficiently ſatisfied of its efficacy to be confident in its recommendation. I make this communication in the expectation that it comports with the deſigns of your publication, and with my conſent to any diſpoſition of it which will promote them.

WILLIAM CUNNINGHAM, JUN.

Fitchburg, March 10, 1807.

MISCELLANEOUS ARTICLES.

Result of Meteorological and other Observations, for March, 1807; made at Deerfield, Warwick, Mason, Portsmouth, Smithfield, Hartford, and Boston.

Feb. 1807.	*Mean degs. at sun-rise.*	*Mean degs. at 2 P. M.*	*Mean degree of the month.*	*Greatest heat in the month.*		*Least heat in the month.*		*Prevailing winds.*	*Marriages.*	*Births.*	*Deaths.*
Deerfield	20	39	29⅓	22 d.	47°	7 & 16 d.	4°	N. & N. W.			3
Warwick	20¼	37½	28½	17	47	3 & 6	6	N. W.	—	2	—
Mason	22⅔	35⅔	29¼	25	44	17	10	N. W.	—	—	—
Portsmouth	25¼	37	31	22	48	3	16	N. W.			
Smithfield	26⅕	35⅓	30⅔	28	43	16	7	N. W.			
Hartford	24	39⅗	21⅚	28	48	15	2	N. W.			
Boston	27	38⅓	32¼	17	46	16	14	N. W.			

WEATHER.

1 — *Sund.* rainy morning; fair ☽ *last quarter.*
2* } fair
3 }
4 — scattering of snow; fair
5* — fair; cloudy at *Boston* & *Smithf.*
6* } fair and pleasant
7 }
8 } *Sund.* dull weather; cloudy,
9 } some snow and a little rain *New Moon.*
10 }
11 } fair
12 }
13 — cloudy; snow at night
14 — snowy morning; fair
15 } *Sund.*
16 } fair,
17 } some ☾ *first quarter.*
18 } flying
19 } clouds; N. W. winds.
20 } squalls
21 } of snow
22 } *Sund.*
23 — cold and windy *Full Moon.*
24 — wind shifted to S. E.; snow at night
25 — cloudy and windy
26 — fair, windy
27 — fair; cloudy in some places
28 } unsettled weather, a little snow
29 } *Sund.* in some places
30 — pleasant, nearly ☽ *last quarter.* calm; an extraordinary Halo round the sun, noticed at Deerfield and Hartford
31 — a most violent snow storm

Warwick, rain —— ; snow 33 inches.
Smithfield, rain 1,6 inches; snow 15,4 inches.

Warwick, March 31, 1807.

This month has been uncommonly cold for the season; the snow fallen has been equal in quantity to all that fell during the three winter months; its mean depth is rising of two feet. Hay extremely scarce. Nature assumes a sullen aspect, and disappointed expectation "saddens at the gloom."

* Days of continued frost, according to observations made at *Boston*; or, days on which the range of the thermometer, through the whole twenty-four hours, was below 32°, or the freezing point.

A very ſevere ſtorm of ſnow from the eaſt and north-eaſt, attended with a piercing and unuſual ſtrong wind, commenced on the morning of the 31ſt——

——"In ſable cinſture, ſhadows vaſt,
Deep ting'd and damp, and congregated clouds,
And all the vap'ry turbulence of heaven,
Involve the face of things."

The ſtorm continued through the day with unabated ſeverity, during which time ſeveral houſes in this vicinity were unroofed, and ſcarcely a barn or ſhed eſcaped ſome material damage. The ſnow fell about one foot deep in the woods; in the cleared land it was much drifted, and rendered the roads impaſſable for ſeveral days.

Healthy for the ſeaſon. Colds, which had become ſo general the laſt month, have in a great meaſure abated.

W. C.

Smithfield, March 31, 1807.

The month has been cold and diſagreeable. Travelling has been extremely bad, as there has been more or leſs ſnow on the ground during the month. In a ſituation expoſed to the north, the ground was found to be frozen to the depth of more than thirty inches, on the 20th inſtant; ſince which it has thawed but very little. Vegetation is perfectly dormant. Spring birds reviſited us about the 20th; but the cold prevents their wonted cheerful connubial notes. We have had no ſevere ſtorms of long duration, but ſeveral ſhort ones. A general complaint of colds and cough prevails; otherwiſe the ſtate of health is favorable. A SMITHFIELD SUBSCRIBER.

Hartford—Influenza prevalent; in ſome inſtances very ſevere.

Deerfield, March 31, 1807.

Remarks.—The month in general has been unuſually cold, and the ſnow has fallen pretty copiouſly: I believe the quantity nearly equal to the whole we had the preceding winter. The 31ſt we had a violent ſnow ſtorm from the north-eaſt quarter; the wind was very high; on the hills the ſnow drifted and blocked up the roads ſo as to render travelling difficult. The ground in the vallies is now covered two feet deep with ſnow, and on the hills much deeper. The month has cloſed with the dreary aſpect of January, and many people are reduced to the laſt lock of hay.

Monday, the 30th of March, the day preceding the above mentioned ſtorm, in the afternoon, a moſt ſingular *corona* or *halo*,* attended with *parhelia* or *mock-ſuns*,† appeared in the weſt.

* Circle round the ſun. † Vulgarly called ſun-dogs.

Two concentric circles circumſcribed the ſun; the horizontal diameter of the interior bow ſubtended an angle of 45 degrees. About 90 degrees of the higheſt part of this bow was very brilliant, and exhibited the priſmatic colors, with the red rays next to the ſun, or in a reverſe order to thoſe of the interior rainbow. At the two extremities of the horizontal diameter of the interior bow were two parhelia, about the ſize of the ſun, alſo ſhewing the priſmatic colors; from theſe extended north and ſouth, or in the prolongation of the horizontal diameter, two conical tails of a light color, each of about 30 degrees. The exterior bow was much fainter than the interior, and without a critical obſervation could not be perceived: the lower part of this bow was hid by the mountain. *Arcs* of two other concentric bows, having the zenith for their centre, and parallel to the horizon, were ſeen at the ſame time. The interior arc was about the ſize and color of the interior ſun-bow; the convex ſide was in contact with the exterior ſun-bow; and the convex ſide of the exterior zenith-bow was in contact with the interior ſun-bow. The zenith arcs continued ſtationary and the other bows accompanied the ſun, and conſequently ſeparated from their contacts as the ſun deſcended. South-eaſt of the zenith another faint parhelion was ſeen. The heaven during theſe appearances was clear, except ſome very thin clouds hardly perceivable, which were ſcattered in various directions and appeared high. The wind was north by eaſt. Thermometer, at ſun an hour high 34°, at two o'clock 38°.

A phenomenon nearly ſimilar to this was obſerved by *Scheiner* at Rome, in the ſeventeenth century, and is deſcribed in Dobſon's edition of the Encyclopædia, Vol. XIII. page 744, article *Parhelia.*

Though there are ſome circumſtances attending theſe phenomena which differ from the rainbow, ſuch as their angular ſize, the order of their colors, their poſition, &c. yet it is believed they may be explained upon the common laws of refraction.

It is generally ſuppoſed that ſuch appearances indicate ſudden changes in the weather, and that they are followed by ſtorms. It is certain that the atmoſphere, at the time theſe phenomena appear, is very different from its common ſtate; and it is probable that an uncommon ſtate of the air will produce ſome extraordinary change in the weather.

State of health.—Extraordinary colds, or a kind of *influenza,* have prevailed this month, in this and the adjacent towns.

☞ A number of communications have been received, which we are not able to notice particularly for want of room; they ſhall appear in our next number. It is peculiarly gratifying to us, to notice the increaſing number of our correſpondents.